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FARM PAPER LETTER

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Agriculture

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Office of
Information

2178

November 2, 1984

**WHAT SOVIET DRIVE
TO GROW MORE FOOD
MEANS TO WORLD AG** This year's Soviet shopping spree for grain, spurred by poor Russian harvests five years in a row, have analysts trying to figure out what impact all this will have on global agriculture in the years ahead. Priorities in the situation differ so sharply that the Soviets, Americans and others will find it hard to agree on the No. 1 problem, let alone the solutions.

These priorities range from growing enough to eat within Soviet borders to boosting U.S. agricultural trade to an irrigation project that could disrupt the world's weather patterns.

TO THE SOVIETS, the big question is whether Russia ever can come close to self-sufficiency in food production, a long-held goal that still seems to be beyond their reach. President Konstantin Chernenko mirrored his government's agony of defeat in agriculture at a recent meeting of the Communist Party Central Committee in Moscow, when he said the Soviet Union is beset by an "acute" crisis in agricultural production.

Chernenko presented proposals to guide his country's agriculture into the year 2000 and described grain production as the "key problem."

Bad weather, said Chernenko, was the chief cause of the crop failures. Western agricultural experts, however, blame the country's highly centralized system for much of its poor agricultural performance.

AMERICAN FARMERS are concerned about the impact Soviet success in growing more food could have on this nation's agricultural exports and world markets in general.

One concern probably would be a cut in exports of U.S. farm products. However, exports of agricultural technology to Russia might result in a net gain for the United States.

ENVIRONMENTAL FEARS cross national and economic lines. Chief among these is that drastic moves to boost Soviet food production could damage the world environment. This factor seemed to pass almost unnoticed when a plenum of the Communist Party Central Committee indicated a shift away from the themes stressed during the era of the late Yuri Andropov, when the call was for better use of existing lands and inducing farm workers to improve their methods.

Another approach -- a plan to take irrigation water from major rivers -- was not mentioned by Chernenko but was buried in the text of Soviet Premier Nikolai Tikhonov's report on land reclamation. There, Tikhonov indicated an effort to divert water from two gigantic Siberian rivers is moving ahead.

THAT RIVER PLAN would redirect the flow of the Ob and Irtysh rivers away from the Arctic Ocean toward the parched lands of Central Asia, through a mammoth canal 1,530 miles long. Both Soviet and Western experts believe such tampering could seriously disturb weather patterns by reducing the amount of Arctic ice. No one knows the consequences.

Possibly, the Soviet river plan will not be executed. Tikhonov's cautious mention of it suggests its scope, at least, is yet to be determined.

"In the near future," said Tikhonov, "we are going to complete design work on the transfer of part of the flow of Siberian rivers in the regions of Urals and West Siberia, Central Asia and Kazakhstan."

On the other hand, Tikhonov's remarks mean the plan is not dead, and while Chernenko cautioned against hasty decisions that harm nature, he said Central Asia will benefit from future irrigation.

RUSSIA'S INTENT to grow more of its own food was expressed in stronger terms after the country was stung by the U.S. grain embargo of 1980.

Two years later, the Soviets announced their "Food Program," which was touted as the centerpiece of a dual strategy to improve the quality of the Russian diet and to wean the nation away from heavy dependence on grain imports.

Regardless of whether the Soviet plan succeeds, the effort could yield the side-benefit of increased trade for American agricultural industries. That's the view of economist Anton Malish, a Soviet-watcher who heads the East Europe-USSR branch of USDA's Economic Research Service.

"Russian imports of machinery, pesticides and herbicides, the techniques and components of their manufacture, and hybrids and breeding stock should come to the fore during the remainder of the decade," says Malish.

EVEN BEFORE the decade began, the Soviet Union had come to see imported agricultural technology as a key tool in the quest to boost its farm output.

Between 1975 and 1982, Soviet imports of agricultural technology nearly tripled in value, rising from \$970 million to \$2.7 billion. Most of the technology came from Eastern Europe, but some was provided by Western nations.

"These figures probably don't capture all the agricultural technology imports actually entering the USSR," says Malish. "We're using Soviet numbers which tend to disguise many categories of imports."

U.S. CHAMBER OF COMMERCE DATA suggest that the American share of this trade in technology could be in the range of 10% to 15%, with a total value of \$200 million to \$300 million in each of the last two years. Russian purchases of most U.S. agricultural inputs and technology are relatively modest -- except for fertilizer raw materials, mostly superphosphoric acid.

In the last five years, the Russians bought more than \$750 million worth of U.S. fertilizers, about two-thirds of it in the last two years alone. During the same five-year period, the Soviets also bought \$13 million worth of farm machinery and parts, \$7 million of meat, poultry and other food-processing and food-service machinery, and \$4 million worth of pesticides.

THERE ARE NO GUARANTEES that the United States will get a sizeable share of any increased Russian imports of agricultural technology, but Malish does see promising signs that the trade between the two countries will pick up. For one thing, the Soviets have used a formal accord in agriculture with the United States to pinpoint their needs for information on U.S. technology and practices in such areas as genetic engineering, remote sensing, swine hybridization, poultry breeding and soil mechanics.

Estimated scrapping rates for tractors, grain combines and trucks range around 12% to 15% a year, nearly as high as new deliveries. Hence, while some 734,000 tractors, combines and trucks were delivered in 1979, the total inventory increased by only 71,000 by January the following year.

"The Russians have made some improvements since the late 1970's, according to their statistics," Malish says, "but scrapping rates still are high."

RUSSIAN CROPLAND SUFFERS from "deficiencies in mineral fertilizer application, and certain fertilizer production is characterized by low nutrient content, high moisture and unusual amounts of impurities. Fertilizer often is delivered to farms in concrete-hard lumps and blocks because it sat for weeks in open railroad cars, exposed to the elements," he said.

Failure to solve such problems is costly.

"Russian yields of principal crops generally are about a third to three-quarters of those obtained in the United States," says Malish. "Wheat yields approximate those of the United States in the mid-1950's, although yields of some other crops, such as potatoes, are close to current U.S. levels."

Soviet livestock growers have their share of trouble, too.

"DESPITE SERIOUS EFFORTS to improve efficiency by increasing mixed feed production, by paying greater attention to breeding, and by investing in harvesting equipment, storage and livestock facilities, the Soviets achieved little or no improvement in feed conversion ratios throughout the 1970's," says Malish.

"Their gains in meat production primarily reflect larger numbers of low-productivity animals."

Nature is cruel to the Russians. Only one-third of the USSR farms lie as far south as the U.S. Canadian border, so the growing season is short when compared to many U.S. agricultural regions. Areas with enough moisture tend to be too cold. Warmer regions don't get enough rainfall.

But these obstacles are only one reason for the low productivity, says Malish. Soviet farmers still could squeeze more productivity out of their land.

MALISH CITES A RECENT EXAMINATION of Soviet agriculture which concluded that Russian resources produce only about half as much as the same amount of climatically similar areas of North America.

U.S. experts believe the Soviets could increase output by recombining existing resources, upgrading the quality of present inputs and doing agricultural chores in a more timely and efficient manner.

SOVIET IMPATIENCE with their food production progress is understandable when you consider that, in all, the USSR will import a record 50 million tons of grain in 1984/85, according to USDA estimates. That is half again as much as the country imported last year.

To handle the growing volume, the Soviets have expanded and are continuing to improve their capacity to handle grain imports.

Reliance on imported agricultural technology is a familiar story to the Soviets as well. For years, they have relied heavily on imported technology to overcome particularly difficult bottlenecks, something they're likely to do more of as they push for production hikes in the next five years.

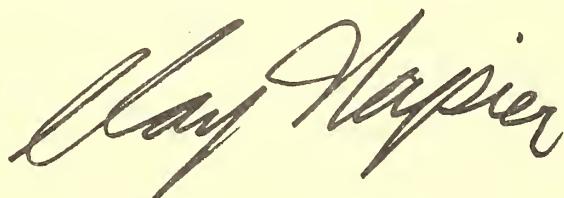
FERTILIZERS, HERBICIDES and pesticides are prime growth items in trade with the Russians. They are major importers of pesticides, which often are complex compounds, difficult to manufacture, store and apply. A closely related area of possible technology transfer is application techniques and equipment for chemicals that kill insect pests and weeds.

Livestock production may be the most important target for increased Soviet use of technology. The Russians want efficiencies that can be obtained by altering the animals themselves through specialized breeding, including artificial insemination and embryo transplants. They also show an interest in changing the animal's environment, improved rations for optimum growth at each stage of an animal's development and in new health and veterinary practices.

Some farm groups may be concerned that technology transfers could jeopardize their commodity sales to Russia. Soviet-watchers agree that greater production in the USSR would affect the trade mix over a period of time, but they also point out that this concern probably is overstated.

BEAR IN MIND that the Soviets have major farm problems that won't be solved quickly or easily. They already have a longer history of importing American technology than they do of importing American grain. Note, too, that technologies embodied in high protein feeds, seeds and breeding stock represent sales for U.S. farmers.

Remember, also, that while the United States is the world leader in agricultural technology, other countries offer similar technologies. Hence, the Soviets could buy their technology elsewhere. Even if the Russians had to settle for second best, that still could be a major improvement. And, it figures that the country that develops a stronger commercial relationship with the Russians is likely to get the extra orders for grains or oilseeds.



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